The Claims:

This listing of claims will replace all prior versions and listings of claims in the application.

1.   (Currently Amended)   An ~~apparatus~~ controller for executing a block program to control at least one device in a network comprising:

a block table listing a plurality of records corresponding to a plurality of blocks in the block program provided in said controller;

a block library provided in said controller for holding a plurality of algorithms associated with said blocks; ~~and~~,

means for executing said blocks in said block program in accordance with said associated algorithms; and

wherein said executing means selectively executes said blocks in the block program that receives a new input value which is different from a previous input value to control said at least one device in said network.

2.   (Previously Presented)   The apparatus as defined in claim 1 further including an execution image file for storing descriptions of said blocks and connections between said blocks.

3.   (Previously Presented)   The apparatus as defined in claim 1 further including means for inputting/outputting data to and from said executing means.

4.   (Previously Presented)   The apparatus as defined in claim 1 wherein each of said records in said block table includes a field indicating whether a corresponding one of said blocks is to be executed by said executing means.

5.   (Previously Presented)   The apparatus as defined in claim 4 wherein each of said records in said block table further includes,

a field for indicating the type of function performed by said corresponding one of said blocks, and

a field for identifying said corresponding one of said blocks.

6. (Previously Presented) The apparatus as defined in claim 5 wherein each of said records in said block table further includes,

at least one field for identifying at least one output connector connected to said corresponding one of said blocks,

at least one field for identifying at least one input connector connected to said corresponding one of said blocks,

at least one field for storing an input value of said corresponding one of said blocks, and

an output value field for storing an output value of said corresponding one of said blocks.

7. (Previously Presented) The apparatus as defined in claim 1 further including a connector table listing a plurality of records of a plurality of connectors for operatively connecting said blocks.

8. (Previously Presented) The apparatus as defined in claim 7 wherein each of said records in said connector table includes a field identifying one of said blocks to which a corresponding connector is connected at a first end, and at least one field for identifying at least one of said blocks to which said corresponding connector is connected at least one second end.

9. (Currently Amended) A computer-implemented method for executing a block program for controlling at least one device in a network using a controller, comprising the steps of:

creating a block table of plurality of block records in the controller that correspond to a plurality of blocks used in the block program;

creating a library in the controller for holding a plurality of algorithms for executing functions associated with said blocks;

selectively setting a flag in said block records when at least one input value of corresponding said blocks changes; and

executing said algorithms of said blocks in said block program having corresponding block records that have said flag set to control said least one device in said network.

10. (Previously Presented) The method as defined in claim 9 further including the step of creating a connector table of records that correspond to connectors for operatively connecting said blocks.

11. (Previously Presented) The method as defined in claim 10 further including the step of subsequently setting a flag in said records corresponding to said blocks that are connected to at least one output of said blocks that have been executed, if a value of said at least one output of said executed blocks has changed.

12. (Previously Presented) The method as defined in claim 11 wherein said step of subsequently setting said flag includes the steps of obtaining an identification of a connector corresponding to said at least one output of said executed blocks from said block records corresponding to said executed blocks, and obtaining an identification of blocks that are connected to said connector.

13. (Previously Presented) The method as defined in claim 10, wherein said block table and said connector tables are created from an execution image file storing said records for said blocks and said connectors.

14. (Previously Presented) The method as defined in claim 9 wherein said executing step is performed at every predetermined time interval.

15. (Previously Presented) The method as defined in claim 9 wherein said records in said block table are listed in an order corresponding to a predetermined order in which said blocks are adapted to be executed in said block program.

16. (Previously Presented) The method as defined in claim 15 wherein said executing step includes a step of checking each record in said block table in said listed order for said block records having said flag set.

17.   (Currently Amended)   A controller having a block program for controlling at least one device in a control network, comprising:

a block table, provided in said controller, listing a plurality of records corresponding to a plurality of function blocks in the block program, said blocks each having at least one input for receiving an input value and at least one output for outputting an output value;

a connector table listing records of connectors for operatively connecting said blocks;

a block library for holding algorithms associated with said blocks; and,   means for executing said blocks in said block program in accordance with said associated algorithms;

wherein said executing means selectively executes said blocks in the block program that receives a new input value which is different from a previous input value, wherein at least one device in a control network is controlled in response to said executing means selectively executing a block.

18.   (Previously Presented)   The controller as defined in claim 17 further including means for inputting data to said executing means from the devices and the control network, and outputting data to the devices and the control network from said executing means.